

**UNITED STATES DISTRICT COURT
DISTRICT OF MINNESOTA**

<p>Tomeka Cole,¹</p> <p style="text-align: center;">Plaintiff,</p> <p>v.</p> <p>Ecolab, Inc. and Does 1–100,</p> <p style="text-align: center;">Defendants.</p>	<p>Case No. 20-cv-0892 (SRN/ECW)</p> <p style="text-align: center;">ORDER ON ECOLAB’S MOTION TO EXCLUDE EXPERT OPINIONS AND TESTIMONY OF DR. RAMACHANDRAN</p>
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SUSAN RICHARD NELSON, United States District Judge

This matter is before the Court on Defendant Ecolab, Inc.’s (“Ecolab’s”) Motion to Exclude the Expert Opinions and Testimony of Dr. Gurumurthy Ramachandran [Doc. No.

¹ In 2020, a number of individual plaintiffs filed lawsuits in this District, alleging similar claims against Defendants. The cases were consolidated for pretrial purposes, with Ms. Cole’s lawsuit serving as the lead case. Because Ms. Cole’s case has since been resolved, the parties have stipulated that the lead case is now *Reich v. Ecolab*, 20-cv-1172 (SRN/ECW). In this Order, although citations to the record refer to the docket in Ms. Cole’s case, the rulings herein apply to those cases in which the same motions are currently pending. For those cases that are not included in this group, the ruling herein is without prejudice.

160].² Based on a review of the files, submissions, and proceedings herein, and for the reasons below, the Court grants the Motion to Exclude Dr. Ramachandran.

I. BACKGROUND

The Court incorporates by reference its discussion of the background of this litigation in its March 6, 2023 Order [Doc. No. 312] and will not repeat it in full here. These consolidated cases concern Defendant Ecolab’s product OxyCide, a surface disinfectant used in hospital and healthcare settings to reduce the risk of dangerous infections of the bacterium *Clostridium difficile*. One of the chemical components of OxyCide is peroxyacetic acid (PAA), which is combined in a solution with hydrogen peroxide and acetic acid. (Carrier Decl. [Doc. No. 163], Ex. 1 (Carbone Dep.) at 55.)

Plaintiffs in these consolidated cases worked as housekeepers, also known as environmental service workers (“EVS”), in a health care setting. (*See, e.g.*, Compl. [Doc. No. 1] ¶ 5.) They contend that PAA is a known asthma-causing substance that causes immune responses and adverse respiratory effects, even at low exposure levels. (*Id.* ¶ 3.) Plaintiffs allege that shortly after using OxyCide at work, they experienced symptoms such as asthma-like symptoms, burning eyes, coughing, headaches, nausea, runny nose, light-headedness, and breathing difficulties. (*Id.*) They attribute the problems to their OxyCide exposure. (*Id.* ¶¶ 5–7.) Plaintiffs assert a number of claims against Ecolab,³ including: (1)

² In a March 6, 2023 Order [Doc. No. 312], the Court ruled on Ecolab’s other motions to exclude expert testimony and opinions.

³ Plaintiffs also assert claims against “Doe Defendants 1–50,” who are manufacturers, suppliers, distributors, trademark owners, or re-packagers of chemical products and related equipment to which Plaintiffs were exposed. (*See, e.g.*, Compl. ¶¶

strict liability–design defect; (2) strict liability–manufacturing defect; (3) strict liability–failure to warn; (4) negligence; (5) breach of express warranty; (6) breach of implied warranty; (7) intentional misrepresentation; (8) negligent misrepresentation; and (9) fraudulent concealment. (*Id.* at ¶¶ 85–196.) They seek damages and declaratory and injunctive relief. (*Id.* at VII.)

II. DISCUSSION

Ecolab now moves to exclude the opinion of Plaintiffs’ retained expert Dr. Gurumurthy Ramachandran, arguing that his opinions fail to meet the requirements of Federal Rule of Evidence 702 and *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579 (1993). Plaintiffs oppose Ecolab’s motion and assert that Dr. Ramachandran’s opinions sufficiently meet the requirements of Rule 702 and *Daubert*.

A. Standard of Review

Federal Rule of Evidence 702 governs the admissibility of expert testimony:

A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:

(a) the expert’s scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;

(b) the testimony is based on sufficient facts or data;

(c) the testimony is the product of reliable principles and methods;

and

13–15.) Because Plaintiffs allege that the Doe Defendants were acting as the agents, employees, co-conspirators and/or alter egos of their co-defendants, (*id.* ¶ 16), the Court refers to Ecolab and the Doe Defendants collectively as “Defendant” or simply as “Ecolab.”

(d) the expert has reliably applied the principles and methods to the facts of the case.

Fed. R. Evid. 702. Under Rule 702, proposed expert testimony must satisfy three prerequisites to be admitted. *Lauzon v. Senco Prods., Inc.*, 270 F.3d 681, 686 (8th Cir. 2001). “First, evidence based on scientific, technical, or other specialized knowledge must be useful to the finder of fact in deciding the ultimate issue of fact.” *Id.* (citation omitted). “Second, the proposed witness must be qualified to assist the finder of fact.” *Id.* (citation omitted). “Third, the proposed evidence must be reliable or trustworthy in an evidentiary sense, so that, if the finder of fact accepts it as true, it provides the assistance the finder of fact requires.” *Id.* (citation omitted) (internal quotation marks omitted).

These requirements reflect the Supreme Court’s analysis in *Daubert*, in which the Court emphasized the district court’s gatekeeping obligation to make certain that all testimony admitted under Rule 702 “is not only relevant, but reliable.” 509 U.S. at 589; *see also Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 149 (1999) (extending *Daubert* to technical and other specialized expert testimony). Under *Daubert*, the cornerstone for admissibility is assistance to the trier of fact. *See Larson v. Kempker*, 414 F.3d 936, 940–41 (8th Cir. 2005).

Under this standard, proponents must demonstrate by a preponderance of evidence that the expert’s opinion is reliable. Courts generally support “an attempt to liberalize the rules governing the admission of expert testimony,” and favor admissibility over exclusion. *See Lauzon*, 270 F.3d at 686 (citation omitted) (internal quotation marks omitted); *Daubert*, 509 U.S. at 596 (“Vigorous cross-examination, presentation of contrary evidence, and

careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence.”). Doubts regarding the usefulness of an expert’s testimony should be resolved in favor of admissibility, *United States v. Finch*, 630 F.3d 1057, 1062 (8th Cir. 2011), and gaps in an expert witness’s qualifications or knowledge generally go to the weight of the testimony and not its admissibility, *Robinson v. GEICO Gen. Ins. Co.*, 447 F.3d 1096, 1100 (8th Cir. 2006) (citing 29 Charles Alan Wright & Victor James Gold, *Federal Practice and Procedure: Evidence* § 6265 (1997)).

B. Dr. Gurumurthy Ramachandran

Plaintiffs retained Dr. Gurumurthy Ramachandran as an expert in industrial hygiene to conduct an experiment that sought to “estimate[] personal [human] exposures to diluted [PAA] when used as a disinfecting agent to wipe surfaces.” (Vercoski Decl. [Doc. No. 245], Ex. 2 (Ramachandran Am. Rpt.) at 002.)

Dr. Ramachandran is a tenured professor in the Department of Environmental Health and Engineering at the Johns Hopkins Bloomberg School of Public Health, and the Director of the Johns Hopkins Education and Research Center for Occupational Safety and Health. (*Id.*) He has been the lead author or co-author of 149 peer-reviewed publications, and is the author of the textbook *Occupational Exposure Assessment for Air Contaminants* (CRC-Lewis 2005). (*Id.*) In addition, he serves on the editorial board of *Annals of Work Exposures and Health* and *Journal of Occupational and Environmental Hygiene*. (*Id.*) Dr. Ramachandran has also served as a member of the Board of Scientific Counselors to NIOSH, and the advisory committee for the National Academy of Sciences and the EPA. (*Id.*)

Dr. Ramachandran acknowledges that there is no governmentally-determined safety limit for human exposure to PAA. (Carrier Decl. [Doc. No. 163], Ex. 2 (Ramachandran Dep.) at 129.) For this litigation, Dr. Ramachandran's experiment sought to simulate the conditions of a hospital and the wiping task that hospital cleaning staff perform when using OxyCide. (Ramachandran Am. Rpt. at 002.) Dr. Ramachandran's lab assistant served as the human subject for the experiment, performing the simulated wiping procedure for 15 minutes, 12 times, inside an exposure chamber that measured 11' x 11' x 8'. (*Id.* at 002–03; Ramachandran Dep. at 54.) The lab assistant wore a monitor on the front of his torso to measure breathing zone personal exposures. (Ramachandran Am. Rpt. at 004.) For purposes of comparison, the lab assistant wore a second monitoring device attached to the back of his torso “to see if there were systemic differences in exposure between the front and back of his torso.” (*Id.*) Four oscillating fans were placed in the chamber “to create a well-mixed condition inside the chamber to create a spatially homogeneous concentration inside the chamber.” (*Id.* at 003.) Inside the chamber, 34 ounces of diluted OxyCide solution were poured into an open beaker and six microfiber clothes were added to the beaker and allowed to soak for five minutes. (*Id.* at 004.) The lab assistant then selected a single microfiber cloth from the solution, wrung it out in the chamber, wiped a section of plastic sheeting on top of a table for two-and-a-half minutes, left the used cloth on the table, and repeated these steps until all six microfiber cloths were used and left on the table. (*Id.*)

Dr. Ramachandran used an electrochemical sensor-based gas monitor to measure PAA concentrations. (*Id.* at 003–04.) He found the PAA exposure exceeded the ACGIH recommendation of 0.4 ppm during each of the 12 runs. (*Id.* at 009.) Based on his

observations, Dr. Ramachandran concluded that “cleaning hard surfaces with OxyCide use solution in a manner consistent with Ecolab’s instructions can lead to 15-minute [total weight average] [PAA] inhalation exposures exceeding 0.4 ppm.” (*Id.*)

Ecolab argues that Dr. Ramachandran’s opinion should be excluded as unreliable for two primary reasons. (Def.’s Mem. to Exclude Ramachandran [Doc. No. 162] at 15–33.) First, it questions the composition and authenticity of the product that Dr. Ramachandran tested, which was not obtained from an authorized Ecolab vendor. (*Id.* at 16–19.) Second, Ecolab argues that Dr. Ramachandran’s simulated experience bears no resemblance to Plaintiffs’ actual OxyCide use or exposure and that Dr. Ramachandran designed the testing chamber to achieve high PPA readings.⁴ (*Id.* at 20–32.)

1. **Product Subject to Testing**

Rule 34 permits a party to request and “inspect, copy, test, or sample . . . tangible things” in another party’s possession, Fed. R. Civ. P. 34, and is a means by which a party may obtain and experiment with the products in question. *See, e.g., In re Method of Processing Ethanol Byproducts & Related Subsys. (‘858) Patent Litig.*, 303 F. Supp.3d 791, 806 (S.D. Ind. 2014) (“CleanTech performed a Rule 34 inspection at the Adkins facility and took samples at various parts of Adkins’ process.”). Here, however, Plaintiffs did not obtain OxyCide from Ecolab or an authorized Ecolab vendor, but instead obtained

⁴ Ecolab also asserts that the timing of Dr. Ramachandran’s February 2022 experiment suggests that it was hastily undertaken, as Plaintiffs hired him after the original expert disclosure deadline, and he completed his data collection only a few days before the revised deadline. (July 11, 2022 Hr’g Tr. [Doc. No. 280] at 130; Def.’s Mem. to Exclude Ramachandran at 3.)

the tested product from Wal-Mart through a third-party internet seller called “Lucky Leo’s, LLC,” which offered two bottles of OxyCide concentrate for \$99 each. (Ramachandran Dep. at 140; Carrier Decl. [Doc. No. 163], Ex. 14 (Walmart Invoice).) Ecolab maintains that this price is significantly lower than the retail price for OxyCide charged by authorized vendors, further casting doubt about the composition and authenticity of the product that Ramachandran tested. (Def.’s Mem. to Exclude Ramachandran at 16 (citing Carbone Decl. [Doc. No. 164] ¶¶ 6–7).)

Indeed, Dr. Ramachandran testified that he knew nothing about Lucky Leo’s business,⁵ nor the storage conditions under which Lucky Leo’s kept the product. (Ramachandran Dep. at 148–49.) While Ecolab stamps expiration dates on bottles of OxyCide, the two bottles of solution used by Dr. Ramachandran contained no such stamp. (*Compare* Carbone Decl. ¶ 8, *with id.* ¶ 9.) Dr. Ramachandran testified that he conducted no tests regarding whether the product had expired, although he acknowledged that testing an expired product would concern him, even though he could only speculate on the effect that expired products would have on his experiment. (Ramachandran Dep. at 143–46.)

⁵ At the time Ecolab filed its memorandum in support of the motion to exclude Dr. Ramachandran’s opinions and testimony, it contended that Lucky Leo’s website described its business as “one man following his passion: Handpicking hidden treasures and flipping them online,” and advertised a “variety of services including purchasing, selling, and recycling used goods.” (Def.’s Mem. to Exclude Ramachandran at 16 (citing <https://www.luckyleos.com/buy-bitcoin>).) However, the website cited by Ecolab is currently inaccessible (producing an “Error 404!” message) and <https://luckyleos.com> is the website of an amusement arcade. *See* Lucky Leo’s Amusement Arcade, <https://www.luckyleos.com> (last accessed Mar. 23, 2023).

Ecolab does not appear to challenge Dr. Ramachandran's qualifications. Rather, it urges the Court to exclude Dr. Ramachandran's opinion because Plaintiffs cannot sufficiently show that the product he tested was OxyCide, much less that it was non-expired, properly stored OxyCide. (Def.'s Mem. to Exclude Ramachandran at 19.) In opposition, Plaintiffs contend that any challenges to the factual basis for Dr. Ramachandran's opinion go to the credibility of his testimony, not its admissibility. (Pls.' Opp'n to Exclude Ramachandran [Doc. No. 244] at 9.)

The Eighth Circuit addressed a similar challenge to an expert's opinion in a Sherman Act case, *In re Wholesale Grocery Prods. Antitrust Litig.*, 946 F.3d 995, 1001 (8th Cir. 2019). There, the court found that the bases for the expert's opinion did not involve questions of fact for the jury to resolve; rather, it was "the foundation of the assumption underlying the application of the method employed by [the expert] on these facts" that warranted the exclusion of the expert's opinion. *Id.* ("There was too great an analytical gap between the facts of the case and the benchmark chosen by [the expert] to support his opinion that the prices paid by independent grocers and Stop & Shop would move in tandem but for the [alleged conspiracy agreement], and likewise that divergence in those prices demonstrates antitrust injury or impact.").

Likewise, when an expert's tests or experiments lack an adequate foundational showing, they may be subject to exclusion. *Cowens v. Siemens-Elema AB*, 837 F.2d 817, 820 (8th Cir. 1988) (stating, "It is settled law that evidence of experimental tests is inadmissible absent a foundational showing that the tests were conducted under conditions substantially similar to those surrounding the incident at issue.") (citing *Hale v. Firestone*

Tire & Rubber Co., 820 F.2d 928, 932 (8th Cir. 1987)). In *Cowens*, the Eighth Circuit affirmed the exclusion of an expert in a products liability case that involved a malfunctioning wire mesh screen in an electronic medical device. *Id.* at 819–20. The defendants objected to the expert’s proffered testimony, arguing that he could not establish whether the screens that he tested were manufactured at a time close to the manufacture of the screen in question. *Id.* at 820. Indeed, the expert stated that he had no idea when the tested screens were made, nor did he have any knowledge of the exact date of manufacture of any screen. *Id.* Finding that “disparate manufacturing dates may have been of great significance in this case,” the Eighth Circuit found the expert’s opinion was properly excluded as it lacked a sufficient foundational showing. *Id.*

The foundation for Dr. Ramachandran’s opinion here is similarly unreliable because Plaintiffs have failed to show that the product used in the experiment was OxyCide, that it was unexpired, and that it was properly stored. Even Dr. Ramachandran acknowledged that testing an expired product in an experiment is of concern. (Ramachandran Dep. at 146.) By contrast, in an ongoing OxyCide trial in California state court involving the same legal counsel and many of the same experts, Dr. Ramachandran testified about a later experiment that he conducted involving OxyCide that was obtained from Ecolab. (*See Reich*, No. 20-cv-1172 (D. Minn.), Mar. 20, 2023 Letter, Ex. 2 [Doc. No. 28-2] (*Slamer v. Ecolab*, Civil No. 1709131 (Cal. Super. Ct., San Bernardino Cnty.), Feb. 15, 2023 Trial Tr. at 96).) Because the basis for Dr. Ramachandran’s experiment here is unsupported by

sufficient facts to render his opinion reliable, his opinion is inadmissible.⁶ *In re Wholesale Grocery Prods. Antitrust Litig.*, 946 F.3d at 1001. Accordingly, the Court grants Ecolab's motion to exclude Dr. Ramachandran's expert opinion and testimony.

III. CONCLUSION

Based on the submissions and the entire file and proceedings herein, **IT IS HEREBY ORDERED** that:

1. Defendant Ecolab's Motion to Exclude Expert Testimony of Dr. Gurumurthy Ramachandran [Doc. No. 160] is **GRANTED**.

Dated: March 23, 2023

s/Susan Richard Nelson
SUSAN RICHARD NELSON
United States District Judge

⁶ As noted, Ecolab also presents additional arguments to exclude Mr. Ramachandran's opinion based on an alleged lack of similarity between the experiment and the experiences of actual OxyCide users. (Def.'s Mem. to Exclude Ramachandran at 20–32.) However, because the Court finds his opinion is inadmissible for the reasons discussed above, the Court does not address Ecolab's additional arguments.